

NEW SPECIES AND A NEW COMBINATION IN PALMAE, THEACEAE, ARALIACEAE, APOCYNACEAE, AND BIGNONIACEAE FROM THE CHOCO AND AMAZONIAN PERU¹

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ABSTRACT

Several new species from the Chocó region of western Colombia and adjacent Ecuador and from Amazonian Peru are described—*Aiphanes chocoensis* A. Gentry (Palmae), *Freziera dudleyi* A. Gentry, *F. jaramilloi* A. Gentry and *F. sessiliflora* A. Gentry (Theaceae), *Schefflera megacarpa* A. Gentry (Araliaceae), *Bonafousia chocoensis* A. Gentry and *Mandevilla dodsonii* A. Gentry (Apocynaceae), *Memora juliae* A. Gentry and *M. pseudopatula* A. Gentry (Bignoniaceae). The new combination *Rauvolfia aphlebia* (Standl.) A. Gentry is proposed for the plant previously known as *Rauvolfia sarapiquensis* Woods. and the species is reported for the first time from South America.

The Chocó region of western Colombia and adjacent Ecuador and Peruvian upper Amazonia are potentially two of the richest areas of the world floristically (Gentry, 1978, 1979, 1981). Both remain very poorly known botanically and current collecting programs in these regions are turning up many undescribed species. It is the purpose of this paper to describe several of the striking new species discovered in the course of these collecting programs in groups for which no taxonomic specialist is available.

PALMAE

***Aiphanes chocoensis* A. Gentry, sp. nov.**

Palma parva, acaulis. Folia indivisa marginibus erosis, costis dense spinosis, spinis mollibus brevibusque, supra nervibus secundariis spiniferis. Spadix simplex, spicatus, pedunculo ca. 60 cm longo, parce spinoso. Flores 2 mm longi, sepalibus membranaceis, petalis masculinis ovatis, staminibus 6, antheris minutis, petalis femineis late ovatis. Fructus non visus.

Stemless palmlet. Leaves completely undivided except the bifid apex, ca. 65 cm long, ca. 25 cm wide at the widest point, the margin prominently erose, with ca. 17 equally spaced primary lateral nerves, the midrib and petiole densely spiny with short soft brownish spines mostly ca. 0.5 cm long (rarely to 1 cm long), the lamina below minutely puberulous and without spines (a single 6 mm long spine on one secondary nerve in the MO isotype), above glabrous and with lines of 0.8–1.8 cm long spines spaced rather evenly ca. 1 cm apart along the main lateral nerves, numerous noticeable dark transverse striations perpendicular to the main lateral veins above. Spathe (only fragments seen) spiny with short few-millimeter long brownish spines. Spadix spicate, completely unbranched, the peduncle ca.

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60 cm long, rather sparsely spiny-hirsute with soft few-millimeter long spines; fertile part of spike 18 cm long, the rachis between the flowers hirsute from the small soft brownish spines. Flowers white, 2 mm long, the sepals thin and membranous, the petals of the male flowers ovate, coriaceous, obtuse to acutish, straw colored when dry, the stamens 6, the anthers very short and thick, as long as wide, ca. 0.3 mm long, the filaments ca. 0.3 mm long; petals of female flowers broadly ovate, obtusely triangular, greenish-tipped when dry, the staminodial cup dentate, ca. 1 mm long. Fruit not seen.

TYPE: COLOMBIA. CHOCÓ: Río Mutatá, tributary of Río El Valle between the base of Alto del Buey and mouth of river, tropical wet forest, 100–150 m, 9 Aug. 1976, *Gentry & Fallen 17450* (COL, holotype; MO, BH(sterile), isotypes).

Fairly common locally along the Río Mutatá but to date not seen elsewhere in the Chocó.

Only two species of *Aiphanes* with unbranched spicate inflorescences were known by Burret (1932, 1937, 1940). Several additional species of *Aiphanes* have subsequently been described (Dugand, 1944; Bailey & Moore, 1949; Moore, 1951), but none of these has unbranched inflorescences or undivided leaves. Both of the known species with spicate inflorescences—*A. monostachys* Burret and *A. simplex* Burret—are Colombian but have pinnately compound leaves and occur at higher altitudes. No other species of *Aiphanes*, except *A. eggersii* Burret and *A. caryotifolia* (H.B.K.) Wendl., both with divided leaves and branched inflorescences, occur in the trans-Andean lowlands. Despite its undivided leaves, the new species can be referred with certainty to *Aiphanes* rather than *Bactris* because of its erose leaf margin.

While Burret's synopsis of *Aiphanes* leaves much to be desired, there is no doubt as to the novelty of *A. chocoensis*, the only species of *Aiphanes* combining an unbranched inflorescence and undivided leaf. Thus the probability that most of the 31 species of *Aiphanes* recognized by Burret and subsequent authors will prove synonymous is irrelevant to the validity of *A. chocoensis*.

I thank Harold Moore for confirming, from the sterile duplicate available to him, that this plant belongs to *Aiphanes* and for giving me the encouragement necessary to delve into a group as taxonomically difficult as the palms.

THEACEAE

Freziera dudleyi A. Gentry, sp. nov.

Arbor grandis, ramulis tomentosis permanentibus. Folia lineari-oblonga, acuminata, obtuse cuneata, sessiles, serrulata, glabrata. Flores axillares, fasciculati, pedicellis 1–2 mm longis, calycibus glabris, ovario ovoideo, tres stigmatibus. Fructus ovoideus, 5 mm longus.

Canopy tree 30 m or more tall; branchlets persistently appressed- to subappressed-tomentose, with small round lenticels when older. Leaves linear-oblong, acuminate, obtusely cuneate and slightly inaequilateral at the base, serrulate, the serrulations gland tipped, the gland sometimes terminating in a caducous tooth, 5–12 cm long, 1.2–2.2 cm wide, completely glabrous above, glabrescent below, usually with a few persisting long appressed trichomes along the midvein, the midvein prominent above and below, the secondary veins not evident, conspic-

uously longitudinally lined parallel to the midvein, practically sessile, the pedicel ca. 1 mm long. Flowers axillary and ramiflorous, fasciculate, 2–4 per fascicle, pedicels short, 1–2 mm long, glabrous; bracteoles suborbicular, with a glandular tip, ca. 2 mm long, minutely puberulous only near the apex; calyx lobes orbicular, 2–3 mm in diameter, glabrous except the slightly ciliate margins of the outer sepals; ovary ovoid, 2 mm long, tapering into a short thick style ca. 0.5 mm long, the stigmas 3. Immature fruit ovoid, 5 mm long.

TYPE: PERU. CUZCO: Cordillera Vilcabamba, Province La Convención, 73°30'W, 12°30'S, common in dense cloud forest at camp 2-1/2 1730 m, ca. 14 km walking distance NE from Hacienda Luisiana and the Apurimac River, immense A-story tree 100 or more feet tall, d.b.h. 24 in., crown flat and spreading, ca. 60 ft. wide, 30 ft. tall, laden with epiphytes, leaves willow-like, mature leaves glossy dark green above, pale and glossy below, 1st year leaves silvery canescent below, bronzy when young, flowers cauliflorous with dark purple stigmas, bark of branchlets conspicuously white speckled on dark brown, extending from 1500 m to 2000 m alt., 28 June 1968, *T. R. Dudley 10567* (MO, holotype).

This outstanding new species has the narrowest leaves in the genus. In Kobuski's (1941) monograph it keys to *F. nervosa* H.&B. or *F. karsteniana* (Szyzyl.) Kobuski depending on whether its leaf base is considered obtuse or cuneate. Both these Colombian species have much wider leaves with noticeable secondary veins.

***Freziera jaramilloi* A. Gentry, sp. nov.**

Frutex, ramulis tomentos permanentibus. Folia anguste elliptica, acuta vel subacuminata, cuneata, subtiliter serrata, infra tomentosa, petiolo 2–5 mm longo. Flores axillares, fasciculati, pedicellis 1–2 mm longis, calycibus glabris praeter margines, ovario globoso. Fructus globosus, ca. 5 mm diametro.

Shrub 2.5 m; branchlets persistently subappressed grayish tomentose, elenticellate. Leaves narrowly elliptic, acute to subacuminate, cuneate and aequilateral at the base, sharply finely serrate, 3.5–6 cm long, 1.3–2 cm wide, glabrous above except the appressed pubescent midvein, the 11–13 pairs of secondary veins plane, separated by 2–4 mm, below conspicuously and uniformly appressed tomentose with grayish trichomes; petiole 2–5 mm long, appressed tomentose. Flowers axillary, 1–2 per fascicle, short pedicellate, the pedicel puberulous and 1–2 mm long; bracteoles ovate, 1.5–2 mm long, glabrous except the ciliate margin; calyx lobes suborbicular, ca. 2 mm long and wide, glabrous except the ciliate margins; petals (in bud) ca. 5 mm long; ovary globose, the style slender, 2 mm long. Fruit red, globose, ca. 5 mm in diameter.

TYPE: COLOMBIA. CHOCÓ: Carretera Ansermanuevo–San José del Palmar, entre el Alto de Galápago y San José del Palmar, 1700–1940 m, 27 Aug. 1976, *E. Forero, R. Jaramillo, M. Pabón, J. Espina & Z. Piñeros 2201* (COL, holotype; MO, isotype).

This is one of the smallest-leaved species of *Freziera*, being matched only by *F. euryoides* Kobuski and *F. parva* Kobuski, and it keys out with this group in Kobuski's monograph. Both of these species have longer pedicels and reduced

leaf pubescence and serrulate leaves. In addition *F. jaramilloi* differs from *F. euryoides* in the secondary veins more numerous and closer together and from *F. parva* in fewer pairs of secondary veins; both those species are much less pubescent, especially lacking the conspicuously persistent branchlet tomentum of *F. jaramilloi*. Two other species of *Freziera* have even smaller leaves, about half as long as those of *F. jaramilloi*. *Freziera microphylla*, described subsequent to Kobuski's monograph, also differs from *F. jaramilloi* in such features as longer pedicels and puberulous sepals, and *F. suberosa* differs also in larger flowers and fissured corky bark.

***Freziera sessiliflora* A. Gentry, sp. nov.**

Arbor, ramulis glabratis. Folia anguste elliptica, acuminata, cuneata, integra vel subintegra, infra sparce puberula trichomatibus longis subappressis, petiolo 2–3 mm longo. Flores axillares fasciculati sessiles, calycis lobis exterioribus glabris, lobis interioribus puberulis.

Tree; young branchlets whitish sericeous-pubescent with subappressed trichomes, soon glabrate, elenticellate. Leaves narrowly elliptic, acuminate, cuneate and almost aequilateral at the base, almost completely entire to barely subserrulate, 7–8 cm long, 2.3–3 cm wide, glabrous above, the midrib raised, the secondary veins plane and hardly evident, below minutely lepidote and pubescent with scattered long whitish subappressed trichomes, the secondary veins not evident; petiole 2–3 mm long, merging with the leaf base. Flowers axillary, ca. 1–3 per fascicle, completely sessile; bracteoles glabrous, suborbicular, ca. 2 mm long and broad; calyx lobes orbicular, 2–3 mm long and broad, the outer lobes glabrous, the inner lobes puberulous except in the central third.

TYPE: COLOMBIA. CHOCÓ: Carretera Ansermanuevo–San José del Palmar, entre el Alto de Galápago y San José del Palmar, 1900 m, 29 Aug. 1976, E. Forero, R. Jaramillo, M. Pabón, J. Espina & Z. Piñeros 2320 (COL, holotype; MO, isotype).

In Kobuski's key this species keys out to *F. sericea* if the glabrous outer calyx lobes are used and to *F. tomentosa* if the puberulous inner ones are used. Both of those species differ strikingly in having much larger (over 15 cm long), very much more pubescent leaves.

ARALIACEAE

***Schefflera megacarpa* A. Gentry, sp. nov.**

Arbor parva. Folia palmatim composita, ca. 25 foliolata, foliola in 3 verticilli concentrici, sparsim minute puberula trichomatibus malpighiaceis. Inflorescentia ampla, aperta, terminalis, ramis no racemiformibus. Fructus subglobosus, 5-sulcatus, 15–18 mm longus, 12–15 mm latus.

Small tree 4–10 m; branchlets ca. 2 cm thick, the bark longitudinally striate. Leaves palmately compound, ca. 25-foliolate (few-foliolate on reduced leaves at the base of the panicle), the leaflets in 3 concentric whorls; leaflets of outermost whorl largest, to 16 cm long and 7 cm wide, elliptic, long acuminate (acumen to 2.5 cm long), rounded to cuneate at the base, petiolules to 15 cm long; leaflets of the innermost whorl narrower and as small as 7 cm long and 1 cm wide; all leaflets

glabrous except for minute reddish appressed T-shaped trichomes along the main veins and widely scattered over the surface; petiole and petiolules minutely appressed-puberulous with reddish T-shaped trichomes. Inflorescence a large open terminal panicle ca. 60 cm long, the branches not racemiform, sericeous rufescent with T-shaped trichomes, the peduncles of the ca. 5-flowered ultimate umbels 1.5–3 cm long, the pedicels (in fruit) 1.5 cm long. Flowers not seen. Fruits basically subglobose, longitudinally deeply 5-sulcate, puberulous with appressed T-shaped trichomes, 15–18 mm long, 12–15 mm wide, the stigma persistent at the apex, each of the 5 stigma branches almost 2 mm long.

TYPE: PERU. LORETO: Province Requena, Genaro Herrera, Río Ucayali, non-inundated forest on mixed sand and clay soil, 7 Dec. 1977, *Gentry, Revilla, Ruiz & Vasquez 21225* (MO, holotype; AMAZ, F, INPA, NY, USM, isotypes).

This remarkable species apparently has the largest fruits of any New World Araliaceae and the most leaflets. It may have the most leaflets per leaf of any palmately compound-leaved plant in the world. It belongs to the group of *Schefflera* species with open paniculate inflorescences with nonracemiform lateral branches which includes *S. gracillima* Steyerl. & Maguire, *S. japurensis* (Mart. & Zucc.) Harms, *S. macrocarpa* (Cham. & Schlecht.) Frodin (ined.), *S. pachycarpa* (March.) Frodin (ined.) *S. paraensis* Hub., *S. umbellata* (N.E. Br.) Vig. Most of the species in this group differ in strongly whitish pubescent leaf undersides and all have much smaller fruits. Vegetatively, *S. megacarpa* is similar to *S. confusum* (March.) Harms, and a sterile collection from Amazonian Brazil, *Krukoff 8808* (F), determined as *Schefflera* cf. *confusa* by Frodin, is probably referable to *S. megacarpa*.

APOCYNACEAE

Bonafousia chocoensis A. Gentry, sp. nov.

Frutex. Folia elliptica vel obovato-elliptica, acuminata, subcordata, sessilia, plus minusve amplexicaulia. Inflorescentia flore solitario axillari. Calyx lobis ovatis, 2 mm longis; corolla lutea pallida, lobis angustis, spathulatis. Fructus non visus.

Shrub 1 m tall; branchlets somewhat angulate, lactiferous. Leaves elliptic to obovate-elliptic, acuminate, rounded to subcordate at the base, 7–19 cm long, 3.5–9.5 cm wide, completely sessile, more or less amplexicaul. Inflorescence a single flower, the pedicel glabrous, ca. 2 mm long; calyx lobes membranous, ovate, 2 mm long; corolla salverform, light yellow or cream, the tube 1.5 cm long and 2 mm wide, twisted and slightly narrower at the top, the reflexed lobes narrow, spatulate, ca. 8 mm long; stamens attached ca. 8 mm from the base of the corolla tube, the anthers sessile, over 4 mm long. Fruit subglobose, 2.5–3 cm long, 2–2.5 cm wide; seeds oblong, 7–8 mm long, longitudinally ridged.

TYPE: COLOMBIA. CHOCÓ: Upper Río Truandó, La Teresita, 100–200 m, shrub 1 m, flowers light yellow, 19 Jan. 1974, *Gentry 9406*, (COL, holotype; MO, Z, isotypes).

Additional Collections Examined: COLOMBIA. CHOCÓ: Río Truandó at junction with Quebrada Buche, *Raphia* swamp, 1 Apr. 1968, *Duke 15743* (MO). Trail from Camp Teresita to Río Salada, 14 June 1967, *Duke 12220* (MO).

This species is unique in the genus in its strikingly sessile leaves, this trait accentuated by the usually more or less cordate leaf base. It is none of the species listed by Markgraf (1939) in his review of *Tabernaemontana* and its segregates and Professor Markgraf has kindly examined a fragmentary duplicate and confirms that it represents a new species.

***Rauvolfia aphlebia* (Standl.) A. Gentry, comb. nov.**

Tabernaemontana aphlebia Standl., Publ. Field Mus. Nat. Hist., Bot. Ser. 18: 946. 1938. TYPE: Costa Rica, Brenes 20551 (F).

Rauvolfia sarapiquensis Woods., Ann. Missouri Bot. Gard. 28: 271. 1941. TYPE: Costa Rica, Skutch 3556 (MO, holotype).

The type of *Tabernaemontana aphlebia* at the Field Museum is obviously conspecific with *Rauvolfia sarapiquensis*. Perhaps the detached leaves of the rather unsatisfactory type misled Standley to describe it under *Tabernaemontana*, although the leaf scars at the nodes show the typical whorled arrangement of *Rauvolfia*. Presumably its description in the wrong genus prevented Rao (1956) from checking *T. aphlebia* during his revision of *Rauvolfia* and caused Woodson to overlook the older name when describing *R. sarapiquensis*.

The species has an interesting disjunct distribution in the mountains of Costa Rica and Chiriquí Province of Panama (Gentry, 1974) and in the upper part of the Serranía de Darién on the border of Panama and Colombia where it has not been reported previously. On Cerro Tacarcuna it is a common and characteristic species of the montane oak forests above 1,400 m. Collections from the Darién/Chocó border region include:

PANAMA. DARIÉN: Vicinity of Cerro Tacarcuna summit camp, 1500–1750 m, lower montane wet forest life zone, Gentry & Mori 14040 (MO). West ridge of Cerro Malí half hour west of helipad, 1400 m, premontane wet forest, Gentry & Mori 13830 (MO). South slope of westernmost peak of Cerro Tacarcuna massif, lower montane wet forest, 1500–1600 m, Gentry, L. Forero, & H. León 16949 (COL, MO). COLOMBIA. CHOCÓ: Cerro Malí, 1420 m, Gentry & Mori 13721 (MO).

***Mandevilla dodsonii* A. Gentry, sp. nov.**

Frutex volubilis, caule hirsuto. Folia elliptica, acuminata, basi anguste cordata, infra dense puberula. Inflorescentia racemosa, axillaris, bracteis foliaceis, caducis. Calycis lobi setacei; corolla tubulo-campanulata, supra basin anguste tubularem; nectarium annulare.

Vine; stem terete, hirsute with trichomes 1–2 mm long. Leaves opposite, elliptic, the apex acuminate with a 1–2 cm long acumen, the base narrowly cordate, 9–17 cm long, 4–7.5 cm wide, membranous, above sparsely strigillose-puberulent, below rather densely puberulous with crisped whitish trichomes, strongly discolored, glandular along the midrib above, the petiole 1.5–4 cm long. Inflorescence an axillary raceme, densely puberulous with subappressed trichomes, the pedicels ca. 5 mm long, the caudate-acuminate foliaceous bracts to 15 mm long and 5 mm wide, early caducous. Flowers with the calyx lobes setaceous, 13–15 mm long, sparsely puberulous; corolla tubular-campanulate above a narrowly tubular base, the upper tube (throat) somewhat gibbous, 3.5–5 cm long, 0.9–1 cm wide at the mouth, the narrow basal part of the tube 2–2.5 cm long, 6 mm wide at the extreme base and narrowed to 2 mm near the apex; anthers ca. 3.5 mm long, basally auriculate; ovary ovoid, 2-parted with a longi-

tudinal constriction, glabrous, ca. 1 mm long, its base surrounded by an apparently annular nectary ca. 1 mm long and 1.5 mm wide. Very immature fruit densely whitish villous.

TYPE: ECUADOR. LOS RÍOS/PICHINCHA (boundary disputed): Ridgeline at El Centinela, crest of Montañas de Ila on road from Patricia Pilar (km 45 on Santo Domingo-Quevedo road) to 24 de Mayo at km 12, 600 m, vine, flowers light yellow, 6 Feb. 1979, *C. Dodson, A. Gentry & J. Duke 7523* (MO, holotype; SEL, isotype).

Additional Collections Examined: ECUADOR. LOS RÍOS/PICHINCHA (boundary disputed): Same locality as type, 27 Nov. 1978, *Dodson 7294* (MO, SEL). ESMERALDAS: Ventanas, Km 319, Quito-San Lorenzo railroad, ca. 100 m, 7 July 1964, *Jativa & Epling 663* (MO).

This new species is very distinct from any known species of *Mandevilla*. The glandular midrib and gibbous corolla place it in subgenus *Exothostemon* where the large tubular-campanulate corolla and relatively large bracts relate it to *M. hirsuta* (A. Rich.) K. Schum. and its allies, according to Woodson's (1933) monograph. Vegetatively it is rather like *M. hirsuta* except for the somewhat different, more strongly discoloured indumentum, and one rather fragmentary specimen of this species at MO was identified as *M. hirsuta*. However, the totally different corolla shape (tubular-campanulate rather than tubular-infundibuliform) and long setaceous calyx lobes are very unlike *M. hirsuta*. The complete fusion of the nectaries into an annular ring would seem to be unique in *Mandevilla*.

Mandevilla dodsonii apparently is restricted to the strip of wet tropical forests along the western base of the Andes in northwestern Ecuador, a distribution presumably correlated with the Pleistocene forest refugium sometimes referred to as the Chimborazo refugium (Brown, 1975; Gentry, 1981).

BIGNONIACEAE

Memora juliae A. Gentry, sp. nov.

Frutex scandens, ramulis teretibus, lenticellis. Folia bipinnata, interdum cirrhis simplicibus; foliola elliptica vel anguste ovata, acuta vel acuminata, infra molliter villosa. Calyx spathaceus, membranaceus, glaber; corolla tubulo-infundibuliformis, glabra; ovarium lineare, sparse lepidotum; discus patelliformis. Capsula linearis complanatus, glabra, seminibus tenuibus, rectangularibus, quasi sine alis.

Liana; branchlets terete, slightly and glabrescently puberulous, drying brownish with conspicuous raised whitish lenticels, the nodes without interpetiolar glandular fields; pseudostipules minute, subulate to subfoliaceous, less than 7 mm long. Leaves typically bipinnately compound with 5–7 leaflets per pinna, the lower leaflets of each pinna often subdivided and 2–5-foliolate, the leaf thus 6–31-foliolate, sometimes with a simple tendril; leaflets elliptic to narrowly ovate, acute to acuminate, rounded to cuneate at the base, membranous to chartaceous, 2–11 cm long, 0.8–5 cm wide, softly villous below with erect rather scattered trichomes, above puberulous only along the main veins; petiole and petiolules puberulous. Inflorescence an axillary raceme, elongate or reduced, ebracteate, glabrous, the pedicels 0.7–1.7 cm long, glabrous or with a few subappressed trichomes, with a few large dark plate-shaped glands, with a pair of conspicuous

broad membranous foliaceous bracteoles 1–1.5 cm by 0.7–1 cm attached at the base of each calyx. Flowers with the calyx spathaceous, membranous, completely glabrous or slightly puberulous at the extreme apex, 20–30 mm long, 7–10 mm wide, drying olive brown or olive tan; corolla yellow, tubular-infundibuliform, (6–)7–9 cm long, 1.5–2 cm wide at the mouth of the tube, the tube 5–7 cm long, the lobes 1.5–2 cm long, completely glabrous except for a few minute glandular lepidote scales or lobes and stalked lepidote trichomes around the margins, villous below stamen insertion; stamens didynamous, the thecae divaricate, ca. 3 mm long, the filaments 2.5–3.5 cm long; pistil ca. 5 cm long, the ovary linear, 5–7 mm long, less than 1 mm wide, sparsely lepidote; disc patelliform, 0.5–1 mm long, 2–3 mm wide. Capsule linear, 50–65 cm long, 2–2.5 cm wide, strongly flattened, completely glabrous except for a few scattered lepidote scales, drying black or blackish, the midline not raised, the margins parallel; seeds thin, rectangular, essentially wingless, 2–2.1 cm long, 3–3.5 cm long, uniformly brownish or with the extreme margin subtranslucent, the linear hilum extending most of length of seed.

TYPE: PERU. LORETO: Province Maynas, Río Yaguasyacu, tributary of Río Ampiyacu, below Borro Indian village of Brillo Nueva, riverside forest, mostly seasonally inundated, liana, flowers deep yellow, calyx and bracts light green, tendril simple, 7 Nov. 1977, *Gentry & Reville 20348* (MO, holotype; AMAZ, F, GH, MISSA, NY, USM, isotypes).

Widespread but very rarely collected in central and upper Amazonia.

Additional Collections Examined: PERU: LORETO: type locality, *Gentry & Reville 20354* (AAU, AMAZ, F, INPA, MO, NY, US, USM). BRAZIL. PARÁ: Obidos, varzea perto do Amazonas, 25 Nov. 1910, *Ducke s.n.* (MG-11510).

This species is closest to *M. adenophora* Sandw. in its conspicuously pubescent leaves and spathaceous calyces subtended by foliaceous bracteoles. That species differs in having gland-tipped trichomes, the inflorescence and bracteoles villous, conspicuous foliaceous, pseudostipules, pubescent fruits, and the leaflets larger and becoming bullate and glabrescent with age.

***Memora pseudopatula* A. Gentry, sp. nov.**

Frutex scandens, ramulis teretibus, sine lenticellis. Folia pinnata vel bipinnata, interdum cirrhosis simplicibus; foliola anguste ovata vel elliptica, obtusa vel acuminata, quasi glabra. Calyx campanulatus, bilabiatus, minute puberulus; corolla tubulo-infundibuliformis, glabra; ovarium lineare, minute lepidotum, glandulosum; discus patelliformis. Capsula lineari-oblonga, aliquantum complanata, minute lepidota.

Liana; branchlets terete, finely striate, elenticellate, the nodes without interpetiolar glandular fields; pseudostipules small, thick-foliaceous. Leaves 2-foliolate to pinnate or bipinnate, most frequently ca. 6–11-foliolate, bifoliolate and biter-nate leaves often with a simple tendril; leaflets narrowly ovate to elliptic, obtuse (rarely retuse) to acuminate, basally rounded or obtuse, coriaceous to subcoriaceous, 5–27 cm long, 2–11 cm wide, usually with a few extremely short trichomes near the base of the midvein above, inconspicuously scattered lepidote below; petiole and petiolules glabrous or very inconspicuously puberulous at the joints. Inflorescence an axillary raceme, one per axil, distinctly minutely puberulous

with simple trichomes, the pedicels 3–10 mm long, the bracts small, subfoliaceous, ovate, 3–4 mm long, 2–3 mm wide, caducous, each flower subtended by a pair of ovate bracteoles 3–4 mm long and ca. $\frac{1}{4}$ as long as the calyx, attached ca. 1 mm below the base of the calyx, the bracts and bracteoles puberulous and with conspicuous plate-shaped glands. Flowers with the calyx coriaceous, campanulate, bilabiate split ca. $\frac{1}{3}$ its length, 11–17 mm long, 7–12 mm wide, minutely puberulous, usually with plate-shaped glands in the upper half; corolla pure intense yellow, tubular-infundibuliform, 7–9.5 cm long, 1.8–3 cm wide at the mouth of the tube, the tube 6–7 cm long, the lobes 1–2 cm long, completely glabrous except inside at the level of stamen insertion; stamens didynamous, the anther thecae divaricate, 3–4 mm long, the filaments 2–3 cm long with insertion 1.8–2.5 cm from the base of the corolla tube; pistil 4–5 cm long, the ovary linear, 6–7 mm long, 1.5 mm wide, minutely lepidote and with scattered large round glands; disc patelliform-pulvinate, 1.5 mm long, 4–5 mm wide. Capsule linear-oblong, somewhat compressed, the apex rounded to bluntly acuminate, 20–22 cm long, 2.5–3.2 cm wide, the margins undulate, midline not evident, minutely lepidote and inconspicuously raised-glandular, drying uniformly black without lighter flecks; seeds fairly compressed, bialate, the brown wings not demarcated from the seed body.

TYPE: PERU. LORETO: Río Mazán, just above La Libertad, ca. 35 km above Mazán, seasonally inundated tahuampa forest, ca. 150 m, vine, flowers pure yellow, single immature fruit green, slightly convex, 10 July 1976, *Gentry & Reville 16617* (MO, holotype; AMAZ, COL, F, INPA, NY, US, USM, isotypes).

Memora pseudopatula occurs in seasonally inundated tahuampa or varzea forests in upper Amazonia and the Orinoco where it allopatrically replaces closely related *M. schomburgkii* (DC.) Miers of lower and middle Amazonia and Guayana.

Additional Collections Examined: PERU. LORETO: Río Itaya near Palo Seco (ca. 40 river km above Iquitos), ca. 120 m, 20 Mar. 1977, *Gentry et al. 18518* (MO). Río Nanay across from Santa Clara (above Iquitos), 120 m, 20 Mar. 1977, *Gentry et al. 18518* (MO); same locality, 7 Apr. 1977, *Gentry et al. 19093* (MO). Quebrada Tamshiyacu, ca. 150 m, 5 Nov. 1977, *Gentry et al. 20333* (MO). Río Yavari, Emilia, ca. 120 m, 22 Nov. 1977, *Gentry & Reville 20787* (MO). Río Yavari between Emilia and Brazilian village of Paumari (above Atalaia del Norte), 22 Nov. 1977, *Gentry & Reville 20795* (MO). Río Yavari, across river from Brazilian village of Paumari, 23 Nov. 1977, *Gentry & Reville 20815* (MO). Río Yavari, between Brazilian village of Paumari and Emilia, 100 m, 25 Nov. 1977, *Gentry & Reville 20947* (MO). Río Yavari, caserío San José, 30 min. de Petropolis, 10 Sep. 1976, *Reville 1354* (MO). Cerca a San Fernando, Río Yavari, 23 Jan. 1977, *Reville 2246* (MO). 7 km SW of Iquitos, 9 Sep. 1972, *Croat 20042* (MO). Gamitanacocha, Río Mazán, 100–125 m, 18 Jan. 1935, *J. M. Schunke 78* (MO). Banks of Río Nanay, 100 m, *Woytkowski 5143* (MO). COLOMBIA. VAUPÉS: Río Vaupés, 2 mi upriver from Mitu, 1 Nov. 1976, *E. Davis 217* (MO). VENEZUELA. AMAZONAS: San Fernando de Atabapo, Lago Titi near the city, 110 m, 23 Mar. 1974, *Gentry & Tillet 10852* (MO, VEN). Río Orinoco, Caño Guacamayo between San Fernando de Atabapo and Santa Bárbara, 110 m, 25 Mar. 1974, *Gentry et al. 10912* (MO, VEN). Río Orinoco, Caño Pavon above junction with Río Atabapo, 25 Mar. 1974, *Gentry et al. 10905* (MO, VEN). BOLÍVAR: Río Parguaza, between mouth and El Carmen (90 km upstream), 80–110 m, *Wurdack & Monachino 41095* (NY).

This is the commonest species of *Memora* in Peruvian Amazonia. In fact, it is the commonest liana of the seasonally inundated tahuampa (varzea) forests around Iquitos, with a density of 8 individuals over 2.5 cm d.b.h. per 1,000 m². *Memora pseudopatula* is intermediate between *M. patula* Miers and *M. schom-*

burgkii and not very different from either of them. In the *Flora of Peru* the few available collections were assigned to both *M. patula* and *M. schomburgkii*; I included the Venezuelan collections under *M. patula* in the *Flora de Venezuela*. The most significant difference between *M. patula* and *M. pseudopatula* is the larger much more strongly compressed capsule of the former. *Memora patula* also differs in a glabrous often elongate inflorescence, and usually shorter more evenly truncate calyx. As here interpreted, wind-dispersed *M. patula* is restricted to the dry areas of northern Venezuela and Colombia. Both *M. pseudopatula* and *M. schomburgkii*, its other close relative, are water dispersed and the fruits of the two species are virtually indistinguishable. *Memora schomburgkii* differs in a spathaceously split calyx, reduced few-flowered inflorescence and smaller bracts and bracteoles. It is possible that collections from intermediate areas would prove *M. pseudopatula* and *M. schomburgkii* conspecific, but the available collections support recognition of different varzea species of *Memora* in upper and lower Amazonia.

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